IN THE CLAIMS

Please amend the claims as follows:

1-32. (Cancelled).

33. (Previously presented) An integrated combined rechargeable battery and wirelessly recharging timepiece apparatus comprising:

a flexible support structure;

a first conductive layer deposited on a first surface area of the support structure;

a thin-film battery deposited as successive thin-film depositions over at least a portion of the first conductive layer, the battery comprising a cathode layer; a solid-state electrolyte layer, and an anode layer deposited such that either the anode layer or the cathode layer is in electrical contact with the first conductive layer, and the electrolyte layer in contact with and completely separating the anode layer and the cathode layer, wherein the electrolyte layer includes LiPON;

a wireless energy-receiving device mounted to the support structure; and

an electronic timepiece circuit mounted to the support structure and including a recharging circuit, the recharging circuit electrically coupled to the battery and the energy-receiving device to recharge the battery using energy received by the energy-receiving device;

wherein the support structure, and the first conductive layer deposited on a first surface area of the support structure form a substrate and the successive thin-film depositions form the thin-film battery affixed to at least one surface of the substrate;

wherein the apparatus further includes a protective coating located on the thin-film battery;

wherein the electronic timepiece circuit forms a device that is affixed to said thin-film battery via the protective coating, and electrically coupled to the thin-film battery through a conductor external to the thin-film battery and to the device; and

wherein the apparatus further includes an encapsulant to encapsulate the device and external conductor.

34-40. (Cancelled).

41. (Previously presented) The apparatus according to claim 33, wherein the energy-receiving device comprises a photovoltaic cell.

42-71. (Cancelled).

72. (Previously presented) A combined battery and wireless-communications apparatus comprising:

a flexible support structure;

a first conductive layer deposited on a first surface area of the support structure;

a thin-film battery deposited as successive thin-film depositions over at least a portion of the first conductive layer, the battery comprising a cathode layer; a solid-state electrolyte layer, and an anode layer deposited such that either the anode layer or the cathode layer is in electrical contact with the first conductive layer, and the electrolyte layer in contact with and completely separating the anode layer and the cathode layer, wherein the electrolyte layer includes LiPON;

an antenna mounted to the support structure; and

an electronic communications circuit mounted to the support structure and electrically coupled to the battery and the antenna to transceive radio communications;

wherein the flexible support structure, and the first conductive layer deposited on a first surface area of the support structure form a substrate and the successive thin-film depositions form the thin-film battery affixed to at least one surface of the substrate;

wherein the apparatus further includes a protective coating located on the thin-film battery;

wherein the antenna and electronic communications circuit form a device that is affixed to said thin-film battery via the protective coating, and electrically coupled to the thin-film battery through a conductor external to the thin-film battery and to the device; and

wherein the apparatus further includes an encapsulant to encapsulate the device and external conductor.

73. (Previously presented) The apparatus of claim 72, further comprising:

an insulating layer located between the battery and the substrate, the insulating layer having a portion extending over the substrate external to the battery; and

a conductive trace located on the substrate between the insulating layer and the substrate, the insulating layer having an opening located in the portion that extends external to the battery to receive the conductor and to allow electrical connection between the conductor and the conductive trace.

74. (Previously presented) The apparatus of claim 72, further comprising a bonding pad located external to the battery and onto which the external conductor is electrically coupled, the encapsulant further encapsulating the bonding pad.

75. (Previously presented) The apparatus of claim 72, wherein the encapsulant further encapsulates at least a portion of the battery and substantially most of the external conductor.

76. (Previously presented) The apparatus of claim 72, wherein the anode or the cathode or both include an intercalation material or a metal or both.

77. (Previously presented) The apparatus of claim 72, wherein:

the cathode layer comprises lithium cobalt oxide deposited on the first conductive layer.

78. (Previously presented) The apparatus of claim 72, wherein the support structure comprises a curved shape having a convex face and an opposing concave face, and the battery is curved and located on the concave face.

79. (Previously presented) The apparatus of claim 72, wherein the antenna is a thin-film trace deposited on the battery.

80. (Previously presented) The apparatus of claim 72, wherein the antenna is a thin-film trace deposited on the electronic communications circuit.

81. (Previously presented) The apparatus of claim 72, wherein the antenna is a thin-film trace deposited on the support structure.

82. (Previously presented) The apparatus of claim 72, wherein the electronic circuit includes a recharging circuit that recharges the battery using energy received by the antenna.

83. (Previously presented) The apparatus of claim 72, further comprising:

a photovoltaic cell, wherein the electronic circuit includes a recharging circuit that recharges the battery using energy received by the photovoltaic cell.

84. (Previously presented) The apparatus of claim 72, wherein the electrolyte layer has a thickness of less than 1000 Angstroms.

85. (Currently amended) ~~The apparatus of claim 3,~~

A combined battery and wireless-communications apparatus comprising:

a support structure;

a first conductive layer deposited on a first surface area of the support structure;

a thin-film battery deposited as successive thin-film depositions over at least a portion of the first conductive layer, the battery comprising a cathode layer; a solid-state electrolyte layer, and an anode layer deposited such that either the anode layer or the cathode layer is in electrical contact with the first conductive layer, and the electrolyte layer in contact with and completely separating the anode layer and the cathode layer, wherein the electrolyte layer includes LiPON;

an antenna mounted to the support structure; and

an electronic communications circuit mounted to the support structure and electrically coupled to the battery and the antenna to transceive radio communications;

wherein the cathode layer comprises a lithium intercalation material deposited on the first conductive layer;

wherein the support structure, and the first conductive layer deposited on a first surface area of the support structure form a substrate and the successive thin-film depositions form the thin-film

battery affixed to at least one surface of the substrate;

wherein the apparatus further includes a protective coating located on the thin-film battery;

wherein the antenna and electronic communications circuit form a device that is affixed to said thin-film battery via the protective coating, and electrically coupled to the thin-film battery through a conductor external to the thin-film battery and to the device; and

wherein the apparatus further includes an encapsulant to encapsulate the device and external conductor.

86. (Currently amended) ~~The method of claim 11,~~
A method for making an integrated combined battery and wireless-communications device comprising:

providing a flexible support structure;

depositing a first conductive layer on a first surface area of the support structure;

depositing a thin-film battery as successive thin-film depositions over at least a portion of the first conductive layer, the battery comprising a cathode layer; a solid-state electrolyte layer, and an anode layer deposited such that either the anode layer or the cathode layer is in electrical contact with the first conductive layer, and the electrolyte layer in contact with and completely separating the anode layer and the cathode layer, wherein the electrolyte layer includes LiPON;

mounting an antenna to the support structure;

mounting an electronic communications circuit to the support structure; and

electrically coupling the electronic communications circuit to the battery and the antenna to transceive radio communications;

wherein the support structure, and the first conductive layer deposited on the first surface area of the support structure form a substrate and the successive thin-film depositions form the thin-film battery affixed to at least one surface of the substrate;

wherein the method further includes depositing a protective coating on the thin-film battery;

wherein mounting of the antenna, the mounting of the electronic communications circuit and the electrically coupling of the electronic communications circuit to the battery and the antenna to transceive radio communications form a device that is affixed to said thin-film battery via the protective coating, and electrically coupled to the thin-film battery through a conductor external to

the thin-film battery and to the device; and

wherein the method further includes depositing an encapsulant to encapsulate the device and external conductor.

87. (Previously presented) The method according to claim 86, wherein the anode or the cathode or both include an intercalation material or a metal or both.

88. (Previously presented) The method according to claim 86, wherein the depositing of the thin-film battery comprises:

depositing a lithium intercalation material on the first conductive layer as the cathode layer; and

depositing the electrolyte layer on the cathode layer.

89. (Previously presented) The method according to claim 86, wherein the depositing of the thin-film battery comprises:

depositing a lithium cobalt oxide material on the first conductive layer as the cathode layer; and

depositing the electrolyte layer on the cathode layer.

90. (Previously presented) The method according to claim 86, wherein the depositing of the thin-film battery comprises:

depositing the cathode layer on the first conductive layer;

depositing the electrolyte layer on the cathode layer; and

depositing the anode layer comprising a lithium intercalation material on the electrolyte layer.

91. (Currently amended) ~~The method according to claim 86,~~

A method for making an integrated combined battery and wireless-communications device comprising:

providing a flexible support structure;

depositing a first conductive layer on a first surface area of the support structure;

depositing a thin-film battery as successive thin-film depositions over at least a portion of the first conductive layer, the battery comprising a cathode layer; a solid-state electrolyte layer, and an anode layer deposited such that either the anode layer or the cathode layer is in electrical contact with the first conductive layer, and the electrolyte layer in contact with and completely separating the anode layer and the cathode layer, wherein the electrolyte layer includes LiPON;

mounting an antenna to the support structure;

mounting an electronic communications circuit to the support structure; and

electrically coupling the electronic communications circuit to the battery and the antenna to transceive radio communications;

wherein the support structure, and the first conductive layer deposited on the first surface area of the support structure form a substrate and the successive thin-film depositions form the thin-film battery affixed to at least one surface of the substrate;

wherein the method further includes depositing a protective coating on the thin-film battery;

wherein mounting of the antenna, the mounting of the electronic communications circuit and the electrically coupling of the electronic communications circuit to the battery and the antenna to transceive radio communications form a device that is affixed to said thin-film battery via the protective coating, and electrically coupled to the thin-film battery through a conductor external to the thin-film battery and to the device;

wherein the method further includes depositing an encapsulant to encapsulate the device and external conductor; and

wherein the support structure has a curved shape having a convex face and a concave face, and the battery is curved and located on the concave face.

92. (Currently amended) ~~The method according to claim 86,~~

A method for making an integrated combined battery and wireless-communications device comprising:

providing a flexible support structure;

depositing a first conductive layer on a first surface area of the support structure;

depositing a thin-film battery as successive thin-film depositions over at least a portion of the first conductive layer, the battery comprising a cathode layer; a solid-state electrolyte layer, and an anode layer deposited such that either the anode layer or the cathode layer is in electrical contact with the first conductive layer, and the electrolyte layer in contact with and completely separating the anode layer and the cathode layer, wherein the electrolyte layer includes LiPON;

mounting an antenna to the support structure;

mounting an electronic communications circuit to the support structure; and

electrically coupling the electronic communications circuit to the battery and the antenna to transceive radio communications;

wherein the support structure, and the first conductive layer deposited on the first surface area of the support structure form a substrate and the successive thin-film depositions form the thin-film battery affixed to at least one surface of the substrate;

wherein the method further includes depositing a protective coating on the thin-film battery;

wherein mounting of the antenna, the mounting of the electronic communications circuit and the electrically coupling of the electronic communications circuit to the battery and the antenna to transceive radio communications form a device that is affixed to said thin-film battery via the protective coating, and electrically coupled to the thin-film battery through a conductor external to the thin-film battery and to the device;

wherein the method further includes depositing an encapsulant to encapsulate the device and external conductor; and

wherein the mounting of the antenna comprises depositing a thin-film trace on the battery.

93. (Currently amended) ~~The method according to claim 86,~~

A method for making an integrated combined battery and wireless-communications device comprising:

providing a flexible support structure;

depositing a first conductive layer on a first surface area of the support structure;

depositing a thin-film battery as successive thin-film depositions over at least a portion of the first conductive layer, the battery comprising a cathode layer; a solid-state electrolyte layer, and an anode layer deposited such that either the anode layer or the cathode layer is in electrical contact with the first conductive layer, and the electrolyte layer in contact with and completely separating the anode layer and the cathode layer, wherein the electrolyte layer includes LiPON;

mounting an antenna to the support structure;

mounting an electronic communications circuit to the support structure; and

electrically coupling the electronic communications circuit to the battery and the antenna to transceive radio communications;

wherein the support structure, and the first conductive layer deposited on the first surface area of the support structure form a substrate and the successive thin-film depositions form the thin-film battery affixed to at least one surface of the substrate;

wherein the method further includes depositing a protective coating on the thin-film battery;

wherein mounting of the antenna, the mounting of the electronic communications circuit and the electrically coupling of the electronic communications circuit to the battery and the antenna to transceive radio communications form a device that is affixed to said thin-film battery via the protective coating, and electrically coupled to the thin-film battery through a conductor external to the thin-film battery and to the device;

wherein the method further includes depositing an encapsulant to encapsulate the device and external conductor; and

wherein the mounting of the antenna comprises depositing a thin-film trace on the electronic communications circuit.

94. (Currently amended) ~~The method according to claim 86,~~

A method for making an integrated combined battery and wireless-communications device comprising:

providing a flexible support structure;

depositing a first conductive layer on a first surface area of the support structure;

depositing a thin-film battery as successive thin-film depositions over at least a portion of the first conductive layer, the battery comprising a cathode layer; a solid-state electrolyte layer, and an anode layer deposited such that either the anode layer or the cathode layer is in electrical contact with the first conductive layer, and the electrolyte layer in contact with and completely separating the anode layer and the cathode layer, wherein the electrolyte layer includes LiPON;

mounting an antenna to the support structure;

mounting an electronic communications circuit to the support structure; and

electrically coupling the electronic communications circuit to the battery and the antenna to transceive radio communications;

wherein the support structure, and the first conductive layer deposited on the first surface area of the support structure form a substrate and the successive thin-film depositions form the thin-film battery affixed to at least one surface of the substrate;

wherein the method further includes depositing a protective coating on the thin-film battery;

wherein mounting of the antenna, the mounting of the electronic communications circuit and the electrically coupling of the electronic communications circuit to the battery and the antenna to transceive radio communications form a device that is affixed to said thin-film battery via the protective coating, and electrically coupled to the thin-film battery through a conductor external to the thin-film battery and to the device;

wherein the method further includes depositing an encapsulant to encapsulate the device and external conductor; and

wherein mounting of the antenna comprises depositing a thin-film trace on the support structure.

95. (Currently amended) ~~The method according to claim 86,~~

A method for making an integrated combined battery and wireless-communications device comprising:

providing a flexible support structure;

depositing a first conductive layer on a first surface area of the support structure;

depositing a thin-film battery as successive thin-film depositions over at least a portion of the first conductive layer, the battery comprising a cathode layer; a solid-state electrolyte layer, and an anode layer deposited such that either the anode layer or the cathode layer is in electrical contact with the first conductive layer, and the electrolyte layer in contact with and completely separating the anode layer and the cathode layer, wherein the electrolyte layer includes LiPON;

mounting an antenna to the support structure;

mounting an electronic communications circuit to the support structure; and

electrically coupling the electronic communications circuit to the battery and the antenna to transceive radio communications;

wherein the support structure, and the first conductive layer deposited on the first surface area of the support structure form a substrate and the successive thin-film depositions form the thin-film battery affixed to at least one surface of the substrate;

wherein the method further includes depositing a protective coating on the thin-film battery;

wherein mounting of the antenna, the mounting of the electronic communications circuit and the electrically coupling of the electronic communications circuit to the battery and the antenna to transceive radio communications form a device that is affixed to said thin-film battery via the protective coating, and electrically coupled to the thin-film battery through a conductor external to the thin-film battery and to the device;

wherein the method further includes depositing an encapsulant to encapsulate the device and external conductor; and

wherein the electronic circuit includes a recharging circuit that recharges the battery using energy received by the antenna.

96. (Previously presented) The method according to claim 86, further comprising:

mounting a photovoltaic cell to the support structure, wherein the electronic circuit includes a recharging circuit that recharges the battery using energy received by the photovoltaic cell.

97. (Currently amended) ~~The apparatus of claim 22,~~

An integrated combined battery and wireless-recharging apparatus comprising:

a flexible support structure;

a first conductive layer deposited on a first surface area of the support structure;

a thin-film battery deposited as successive thin-film depositions over at least a portion of the first conductive layer, the battery comprising a cathode layer; a solid-state electrolyte layer, and an anode layer deposited such that either the anode layer or the cathode layer is in electrical contact with the first conductive layer, and the electrolyte layer in contact with and completely separating the anode layer and the cathode layer, wherein the electrolyte layer includes LiPON;

an energy-receiving device mounted to the support structure; and

an electronic communications circuit including an antenna mounted to the support structure and including a recharging circuit, the recharging circuit electrically coupled to the battery and the energy-receiving device to recharge the battery using energy received by the energy-receiving device;

wherein the support structure, and the first conductive layer deposited on a first surface area of the support structure form a substrate and the successive thin-film depositions form the thin-film battery affixed to at least one surface of the substrate;

wherein the apparatus further includes a protective coating located on the thin-film battery;

wherein the antenna and electronic communications circuit form a device that is affixed to said thin-film battery via the protective coating, and electrically coupled to the thin-film battery through a conductor external to the thin-film battery and to the device; and

wherein the apparatus further includes an encapsulant to encapsulate the device and external conductor.

98. (Previously presented) The apparatus of claim 97, wherein the anode or the cathode or both include an intercalation material or a metal or both.

99. (Previously presented) The apparatus of claim 97, wherein the cathode layer comprises lithium cobalt oxide deposited on the first conductive layer.

100. (Previously presented) The apparatus of claim 97, wherein the energy-receiving device comprises a photovoltaic cell.

101. (Previously presented) The apparatus of claim 97, wherein the energy-receiving device comprises an antenna.

102. (Previously presented) The apparatus of claim 97, wherein the energy-receiving device comprises an electromechanical electric generator.

103. (Previously presented) The apparatus of claim 97, wherein the energy-receiving device comprises an acoustic transducer.

104. (Previously presented) The apparatus of claim 97, further comprising a magnetic transducer.

105. (Previously presented) The apparatus of claim 97, further comprising an acoustic transducer.

106. (Previously presented) The apparatus of claim 97, wherein the apparatus operates as an implantable medical device.

107. (Previously presented) The apparatus of claim 97, wherein the anode comprises an intercalation material.

108. (Previously presented) The apparatus of claim 97, wherein the cathode comprises an intercalation material.

109. (Previously presented) The apparatus of claim 97, wherein both the anode and the cathode comprise an intercalation material.

110. (Previously presented) The apparatus of claim 97, wherein the anode comprises a metal.

111. (Previously presented) The apparatus of claim 97, wherein the cathode comprises a metal.

112. (Previously presented) The apparatus of claim 97, wherein both the anode and the cathode comprise a metal.

113. (Currently amended) ~~The apparatus of claim 31,~~
An integrated combined rechargeable battery and wirelessly recharging hearing aid apparatus comprising:

a support structure;

a first conductive layer deposited on a first surface area of the support structure;

a thin-film battery deposited as successive thin-film depositions over at least a portion of the first conductive layer, the battery comprising a cathode layer; a solid-state electrolyte layer, and an anode layer deposited such that either the anode layer or the cathode layer is in electrical contact with the first conductive layer, and the electrolyte layer in contact with and completely separating the anode layer and the cathode layer, wherein the electrolyte layer includes LiPON;

a wireless energy-receiving device mounted to the support structure; and

an electronic hearing-aid circuit mounted to the support structure and including a recharging circuit, the recharging circuit electrically coupled to the battery and the energy-receiving device to recharge the battery using energy received by the energy-receiving device;

wherein the support structure, and the first conductive layer deposited on a first surface area of the support structure form a substrate and the successive thin-film depositions form the thin-film battery affixed to at least one surface of the substrate;

wherein the apparatus further includes a protective coating located on the thin-film battery;

wherein the antenna and electronic communications circuit form a device that is affixed to said thin-film battery via the protective coating, and electrically coupled to the thin-film battery

through a conductor external to the thin-film battery and to the device; and

wherein the apparatus further includes an encapsulant to encapsulate the device and external conductor.

114. (Previously presented) The apparatus of claim 113, wherein the energy-receiving device comprises a photovoltaic cell.